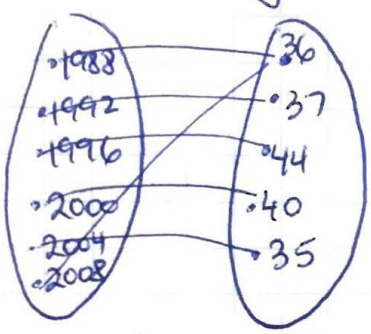
2-1 PRACTICE

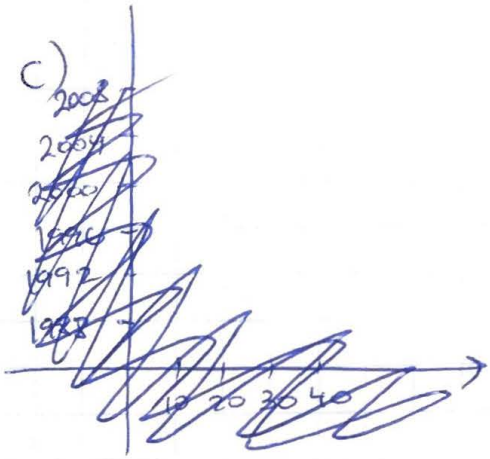
1) a) Mapping Diagram



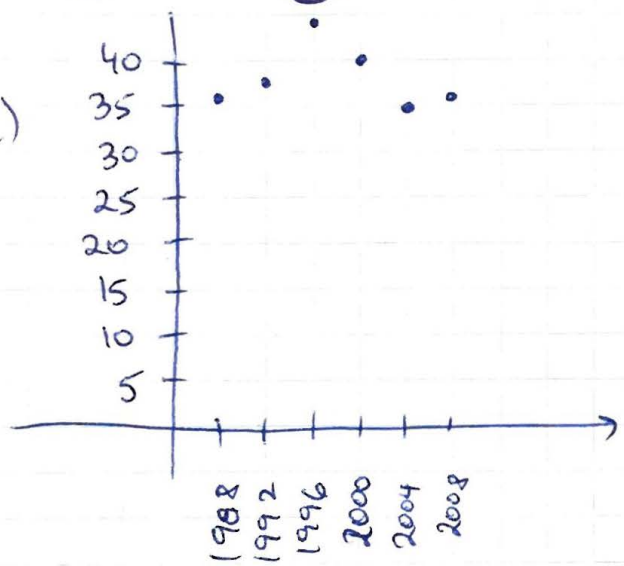
b) ordered pairs

{(1988, 36); (1992, 37); (1996, 44); (2000, 40); (2004, 35); (2008, 36)}

c)



c)



2) DOMAIN

{1988, 1992, 1996, 2000, 2004 2008}

3) [redacted]

EACH X value HAS ONLY 1 y value, therefore it's a FUNCTION

4)

ONE X HAS TWO y values therefore it's NOT a FUNCTION

5) SAME LIKE #3

6) yes passes vertical line test

7) NO DOES NOT pass a vertical line test

8) yes passes vertical line test

9) $f(x) = -3x + 2$

$f(3) = -3 \cdot 3 + 2$

$f(3) = -9 + 2$

$f(3) = -7$

$(3, -7)$

10) $f(x) = \frac{1}{2}x - 1$

$f(-2) = \frac{1}{2}(-2) - 1$

$f(-2) = -1 - 1$

$f(-2) = -2$

$(-2, -2)$

13) $f(x) = \frac{9}{4}x - 15$

$f(4) = \frac{9}{4} \cdot 4 - 15$

$f(4) = 9 - 15$

$f(4) = -6$

$(4, -6)$

12) $f(x) = -5x - 3$

$f(-7) = -5(-7) - 3$

$= 35 - 3$

$= 32$

$(-7, 32)$

13) $f(x) = 5x - 22$

$f(12) = 5(12) - 22$

$60 - 22$

$= 38$

$(12, 38)$

14) $f(x) = \frac{5}{3}x - \frac{3}{5}$

$f(3) = \frac{5}{3} \cdot 3 - \frac{3}{5}$

$= 5 - \frac{3}{5}$

$= \frac{25}{5} - \frac{3}{5} = \frac{22}{5}$

$(3, \frac{22}{5})$

15) FUNCTION RULE

Miles traveled • rate per mile + daily rental

$73 \cdot 0,5 + 19.95$

$36.5 + 19.95$

$\boxed{56.45}$

16)

$48 \cdot ,60 + 39.95$

$= 28.8 + 39.95$

$= \boxed{68.75}$

17) It is a function

DOMAIN

all $\mathbb{R}$ (REAL NUMBERS)

OR $(-\infty, \infty)$

RANGE

$[-1, \infty)$

18) It is NOT a function (DOES NOT PASS VERTICAL LINE TEST)

DOMAIN

$[0, 2]$

RANGE

$[-2, 2]$

19) $A = 4\pi r^2$

WHEN $r = 11.5$ cm $\quad A = 4\pi (11.5)^2$

$= 4\pi (132.25)$

$= 529\pi$ cm^2

20) $h(f) = 2.3f + 24$

a) $(13, t)$ — 13: femur, t: height

$t = 2.3 \cdot 13 + 24$

$= 29.9 + 24$

$\boxed{t = 53.9}$

b) $(14.5, p)$

$p = 2.3 \cdot 14.5 + 24$

$= 33.35 + 24$

$\boxed{p = 57.35}$

c) $(m, 56.2)$

$56.2 = 2.3m + 24$

$-24 \qquad -24$

$\frac{32.2}{2.3} = \frac{2.3m}{2.3}$

$\boxed{m = 14}$

d) $(n, 72.3)$

$72.3 = 2.3n + 24$

$-24 \qquad -24$

$\frac{48.3}{2.3} = \frac{2.3n}{2.3}$

$\boxed{n = 21}$